

IN THE SPECIFICATION:

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Fig. 12 shows a configuration of a data processing apparatus for a semiconductor manufacturing apparatus in the prior art. The configuration of Fig. 12 includes an etching system 1 of the semiconductor manufacturing apparatus, etching chambers 11 and 12 as processing chambers of the etching system 1, and sensors 13 and 14 respectively of the etching chambers 11 and 12. Each of the sensors 13 and 14 measures various physical quantities, for example, a degree of vacuum in a vacuum chamber, plasma density, and an output from a plasma ~~plasma~~ emission spectrometer to produce sensor data. The configuration further includes a controller 15 of the etching system 1 to obtain wafer processing information items such as a type of a wafer being processed and a processing condition for the wafer. Reference numeral 2 indicates a data collector. Reference numeral 21 indicates a data processor of the data collector 2. The data processor 21 collects the sensor data and the wafer processing information to store them in a database 22. Reference numeral 3 indicates a data analyzer which accesses the database (DB) 22 via the data processor 21 to acquire necessary data and analyzes the data. The operator of the semiconductor manufacturing apparatus can operate the semiconductor manufacturing apparatus according to results of the analysis.

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Since the sensor data includes, for example, information with respect to time of a plasma emission spectrum (several thousand of data items per second) from the plasma emission spectrometer described above, a large amount of information items must be processed. Therefore, the data analyzer 3 takes a long period of time to obtain sensor data from the data collector 2 and imposes at the same time a load onto the data collector 2. This hinders the data collecting operation of the data collector 2. Particularly, when the ~~when the~~ etching system includes a plurality of etching chambers as shown in Fig. 12, the data collector must alternately handle the data items from the sensors in a duplicated manner as shown in Fig. 13. Therefore, it is difficult to guarantee a free period of time to be allocated for the data analyzer 3 to execute data processing, for example, a data extraction request. That is, in the data processing apparatus of the prior art, it is difficult to guarantee a wait period of time to execute processing such as analysis, and hence usability of the apparatus is deteriorated.